Sample Date 7/21/2011
pH (Field Measured) 6.58
Conductivity (Field Measured) 315 µS/cm

S/cm



	Element	al Analys	ses of Fo	rmation	Water							
	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard <sup>(4)</sup>	250			250								0.3
Sample Result	16.8	<0.1	7.6	16.7	117	143	33.9	6.7	24	N/A	<1	<0.3
	Mn	Si	Li	Be	В	Al	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	4.8	50	<4	55	<5	<5	<5	<5	<5	<5	<5
	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard <sup>(4)</sup>					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	<5	179	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

N/A = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002873

CABOT-EPA 000146



# Date of Sampling 7/21/2011

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	co	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole %	%)(Mole 9	%)(Mole %	) (Mole %)	(Mole %	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.33	23.05	1.58	61.69	0.006	12.15	2.36	-33.90	NA	0.199	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002874

CABOT-EPA 000147

Sample Date 7/22/2011
pH (Field Measured) 9.32
Conductivity (Field Measured) 529 µS/cm



	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard <sup>(3)</sup>			10									
Secondary Standard (4)	250			250								0.3
Sample Result	7.6	<0.1	<1	3.1	275	335	2.4	<1	80	N/A	<1	0.34
_	Mn	Si	Li	Be	В	Al	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	5.6	380	<4	534	465	<5	<5	<5	<5	5.0	<5
	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	6.5	<5	<5	<5	<5	<5	<5	<5	75.7	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

N/A = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002875

CABOT-EPA 000148



Date of Sampling 7/22/2011

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole %	6)(Mole %	%)(Mole %)	(Mole %	) (Mole %	) (Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result	0.0067	0	0.26	0.33	0.006	14.73	0	83.75	60.40	-32.01	NA	0.905	0	0.0093

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002876

CABOT-EPA 000149

Sample Date 7/22/2011
pH (Field Measured) 5.82
Conductivity (Field Measured) 288 µS/cm



Elemental Analyses of Formation Water

	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	12.2	<0.1	1.1	12.9	125	187	37.1	8.9	12	N/A	<1	<0.3
	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	4.5	17	<4	27	<5	<5	<5	<5	<5	<5	<5
	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	<5	107	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

N/A = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002877

CABOT-EPA 000150



# Date of Sampling 7/22/2011

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %	)(Mole %)(	(Mole %	)(Mole %)	(Mole %)	(Mole %)	(Mole %)	(Mole %)	(mg/L) <sup>(1)</sup>	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.70	11.21	3.12	83.89	0	0.0791	<0.1	NA	NA	0	0	0

Notes: (1) Methane concentration is an estimate only NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002878

CABOT-EPA 000151

Sample Date 7/22/2011
pH (Field Measured) 6.49
Conductivity (Field Measured) 253 µS/cm

Address:

Elemental Analyses of Formation Water

		ai / ilialy	00 01 1 0	mation								
	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	к	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	6.6	<0.1	3.5	9.8	117	143	33.1	6.9	12	N/A	<1	<0.3
	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	0.05	4.6	26	<4	26	<5	<5	<5	<5	<5	<5	<5
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	<5	229	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or µg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

N/A = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002879

CABOT-EPA 000152



Date of Sampling 7/22/2011

	He	$H_2$	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	CO	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %	) (Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.41	2.61	0.48	75.70	0	19.57	4.91	-33.12	NA	0.226	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002880

CABOT-EPA 000153

Sample Date 9/22/2010 pH (Field Measured) 7.48 Conductivity (Field Measured) 314 µS/cm Address:

Elemental Analyses of Formation Water

		ai / ilialy	00 01 1 0	mation	· · · · · ·							
	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit (2)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	18.58	0.10	8.23	16.53	119	145	32.20	6.78	31.35	NA	<1	<03
_	Mn	Si	Li	Be	В	Al	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard <sup>(4)</sup>	0.05					50						5000
Sample Result	<0.05	5.37	52.33	<4	63.68	<5	<5	<5	<5	<5	<5	22.92
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	175	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or µg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002881

CABOT-EPA 000154

Address

Date of Sampling 9/22/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %)	(Mole %)	(Mole %)	(Mole %	6) (Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.63	18.39	1.51	78.47	0	0.00	<0.0003	NA	NA	0	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002882

CABOT-EPA 000155

Sample Date 9/23/2010 pH (Field Measured) 7.92 Conductivity (Field Measured) 218 µS/cm



	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	3.56	<0.1	3.50	10.73	112	138	27.97	5.91	10.43	NA	<1	<0.3
-	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard <sup>(4)</sup>	0.05					50						5000
Sample Result	<0.05	4.22	13.02	<4	27.89	<5	<5	<5	<5	<5	<5	<5
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	147	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002883

CABOT-EPA 000156



Date of Sampling 9/23/2010

	He	$H_2$	Ar	O <sub>2</sub>	$CO_2$	$N_2$	CO	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %	) (Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.60	16.05	0.52	81.83	0	0.00	<0.0003	NA	NA	0	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002884

CABOT-EPA 000157

Sample Date 9/23/2010 pH (Field Measured) 8.24 Conductivity (Field Measured) 240 µS/cm



Elementa	l Analyses	of Formation	Water

	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	НСО₃	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	4.08	<0.1	1.43	8.33	122	148	29.66	5.68	19.47	NA	<1	<0.3
	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	0.06	5.52	32.88	<4	60.85	10.19	<5	<5	<5	<5	<5	<5
	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	467	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002885

CABOT-EPA 000158



Date of Sampling 9/23/2010

_	He	H <sub>2</sub> Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	CO	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
<u>)</u>	Mole %) (Mo	ole %)(Mole	%)(Mole	%)(Mole 9	%) (Mole '	%) (Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result		0.3	2 1.32	0.13	15.38	3 0	81.06	41.80	-30.97	-174.20	1.78	0	0.0091

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002886

CABOT-EPA 000159

Sample Date 9/23/2010
pH (Field Measured) 7.25
Conductivity (Field Measured) 308 µS/cm



Elemental Analyses of Formation Water

	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	K	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	11.96	0.12	2.20	13.46	128	156	35.54	8.75	13.28	NA	<1	<0.3
-	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	4.45	17.13	<4	38.29	5.31	<5	<5	<5	<5	<5	<5
•	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	112	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or µg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002887

CABOT-EPA 000160



# Date of Sampling 9/23/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	co	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %)	(Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.63	13.78	3.16	81.23	0	0.20	0.04	NA	NA	0.0033	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002888

CABOT-EPA 000161

Sample Date 9/23/2010 pH (Field Measured) 6.99 Conductivity (Field Measured) 275 µS/cm



Elemental Analyses of Formation Water

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	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	21.29	0.13	1.78	13.91	95	116	34.82	7.86	9.25	NA	<1	0.60
_	Mn	Si	Li	Be	В	Al	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard <sup>(4)</sup>	0.05					50						5000
Sample Result	0.38	4.17	7.84	<4	26.58	<5	<5	<5	<5	<5	<5	33.39
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	251	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or µg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002889

CABOT-EPA 000162



Date of Sampling 9/23/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %)	(Mole %)	)(Mole %	) (Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			0.36	1.94	1.93	16.68	0	77.39	21.63	-39.10	-220.10	1.69	0	0.0068

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002890

CABOT-EPA 000163

Sample Date 9/23/2010 pH (Field Measured) 6.96 Conductivity (Field Measured) 230 µS/cm



	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	к	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	14.84	0.12	2.19	12.45	86.0	105	30.34	7.36	6.66	NA	<1	<0.3
	Mn	Si	Li	Be	В	ΑI	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	4.40	8.25	<4	16.86	7.88	<5	<5	<5	<5	<5	<5
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	88.0	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002891

CABOT-EPA 000164

Address

Date of Sampling 9/23/2010

	He	$H_2$	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	co	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %)	(Mole %	)(Mole %	) (Mole %	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.52	3.65	3.35	78.97	0	12.39	2.44	-30.05	-169.90	0.125	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002892

CABOT-EPA 000165

Sample Date 9/23/2010 pH (Field Measured) 9.12 Conductivity (Field Measured) 311 µS/cm Address:

Elemental Analyses of Formation Water

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	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	к	Sr	Fe <sup>(1)</sup>
Unit (2)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	2.46	<0.1	1.31	8.64	158	193	1.61	<1	71.21	NA	<1	<0.3
-	Mn	Si	Li	Ве	В	Al	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	4.88	182.42	<4	268	63.49	<5	<5	<5	<5	<5	<5
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	57.13	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or µg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002893

CABOT-EPA 000166



Date of Sampling 9/23/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %	(Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			0.32	1.99	0.01	14.55	0.005	81.66	34.50	-30.28	-172.00	1.44	0	0.021

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002894

CABOT-EPA 000167

Sample Date 9/23/2010 pH (Field Measured) 8.33 Conductivity (Field Measured) 246 µS/cm



	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	3.61	<0.1	1.33	9.84	124	152	29.04	5.73	7.68	NA	<1	<0.3
-	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard <sup>(4)</sup>	0.05					50						5000
Sample Result	<0.05	4.87	38.85	<4	68.19	<5	<5	<5	<5	<5	<5	11.28
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	380	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002895

CABOT-EPA 000168



# Date of Sampling 9/23/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	co	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)(	Mole %)(N	Mole %	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			0.22	1.07	0.10	10.57	0	86.43	52.18	-32.90	-187.50	1.62	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002896

CABOT-EPA 000169

Sample Date 9/23/2010 pH (Field Measured) 8.12 Conductivity (Field Measured) 249 µS/cm



Elemental Analyses of Formation Water

	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	K	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	5.35	<0.1	2.21	9.38	122	149	31.26	6.18	3.71	NA	<1	<0.3
-	Mn	Si	Li	Ве	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	<0.05	5.00	33.18	<4	50.29	<5	<5	<5	<5	<5	5.70	7.98
•	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	304	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002897

CABOT-EPA 000170



Date of Sampling 9/23/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole	%)(Mole %	6) (Mole %	%) (Mole %	6) (Mole 9	%) (Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result	0.0032	0	0.50	1.30	0.13	29.48	3 0	67.24	33.34	-30.90	-174.00	1.35	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002898

CABOT-EPA 000171

Sample Date 9/24/2010 pH (Field Measured) 8.33 Conductivity (Field Measured) 251 µS/cm



Ε	lementa	l Anal	yses	of	Formation	า V\	ater

	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO₃	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	7.15	<0.1	4.18	9.81	127	155	32.09	6.86	12.63	NA	<1	<0.3
•	Mn	Si	Li	Be	В	ΑI	V	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(μg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard (4)	0.05					50						5000
Sample Result	0.06	4.34	23.88	<4	29.48	<5	<5	<5	<5	<5	<5	<5
	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard <sup>(4)</sup>					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	236	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL DIMOCK\_002899

CABOT-EPA 000172



# Date of Sampling 9/24/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	СО	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	δDC <sub>1</sub>	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %	)(Mole %)	(Mole %)	(Mole %	%) (Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			1.32	3.36	0.38	75.08	0.008	19.65	4.64	-32.95	-180.90	0.2	0	0

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002900

CABOT-EPA 000173

**Sample Date** 9/24/2010 pH (Field Measured) 8.23 Conductivity (Field Measured) 253 μS/cm



	CI	Br	NO <sub>3</sub>	SO <sub>4</sub>	Alkalinity as CaCO <sub>3</sub>	HCO <sub>3</sub>	Са	Mg	Na	К	Sr	Fe <sup>(1)</sup>
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Primary Standard (3)			10									
Secondary Standard (4)	250			250								0.3
Sample Result	7.58	<0.1	3.78	9.30	119	145	33.82	7.05	14.24	NA	<1	<0.3
-	Mn	Si	Li	Be	В	ΑI	٧	Cr	Со	Ni	Cu	Zn
Unit <sup>(2)</sup>	(mg/L)	(mg/L)	(μg/L)	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Primary Standard (3)				4				100			1300	
Secondary Standard <sup>(4)</sup>	0.05					50						5000
Sample Result	0.05	5.21	28.24	<4	32.20	5.88	<5	<5	<5	<5	<5	<5
-	As	Se	Rb	Мо	Ag	Cd	Sb	Te	Ва	Pb	Th	U
Unit <sup>(2)</sup>	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)
Primary Standard (3)	10	50				5	6		2000	15	2	30
Secondary Standard (4)					100							
Sample Result	<5	<5	<5	<5	<5	<5	<5	NA	239	<5	<2	<5

Notes: (1) Analyses are qualitative only

- (2) Concentrations are reported as mg/L (parts per million) or μg/L (parts per billion) as indicated
- (3) U.S. EPA Primary Standard. Legally enforcable and designed to protect the public health.
- (4) U.S. EPA Secondary Standard. Non-enforcable guidelines designed to protect against cosmetic or aesthetic impacts on drinking water.

NA = Not Analyzed as of date of this report

<5 = less than the reporting limit (limit is indicated)

CONFIDENTIAL

DIMOCK\_002901 **CABOT-EPA 000174** 

Address

Date of Sampling 9/24/2010

	He	H <sub>2</sub>	Ar	O <sub>2</sub>	CO <sub>2</sub>	$N_2$	co	Methane (C <sub>1</sub> )	Methane (C <sub>1</sub> )	$\delta^{13}C_1$	$\delta DC_1$	Ethane	Ethene	Propane
	(Mole %)	(Mole %)	(Mole %)	(Mole %	)(Mole %	) (Mole %)	(Mole %)	(Mole %)	(mg/L)	(‰)	‰	(Mole %)	(Mole %)	(Mole %)
Sample Result			0.80	1.74	0.19	49.30	0	47.72	19.17	-38.45	-200.20	0.242	0	0.0017

Notes: NA = Not Analyzed

CONFIDENTIAL DIMOCK\_002902

CABOT-EPA 000175